

IEA Task 39 5th Business Meeting

IEA Bioenergy Task 39 Biofuels to Decarbonize Transport

23/02/2023

Virtual

Task 39 Third Business Meeting Minutes

Details

Class/Project	Business meeting
Date/Time/Location	23/02/23, 17:00 h Brasília time
Goal	
Attendees	Tomas Ekbom, Hannah Edgren, Glaucia Souza Mendes, Andrea Sonnleitner, José Muisers, Robert Malina, Chang Hyun Ko, Fuli Li, Paul Sinnige, Stephan Janbroers, Franziska Müller-Langer, Nicolae Scarlat, Jack Saddler, Ling Tao, Alice Simmonds, Tom Walsh, Mackenzie Boubin, Nicolaus Dahmen, Yuta Shibahara, Francois Collard, Susan Van Dyke, and Hana Mohammadi.

Meeting notes

1. General introduction with welcome and presentation of all attendees, Tomas Ekbom and All (30 minutes)

Tomas welcomed participants, presented the agenda, and general guidelines for the meeting.

All NTLs to present three currently most important “issues” being it projects, policies, events, or others in their country right now – a quick biofuels update. Each NTL is given about one minute for this, no slides necessary, except for China and South Korea.

Australia

Steve Rogers (guest) did not join.

Austria

Andrea Sonnleitner introduced the Amendment of the Fuel Ordinance (which allows the introduction of E10) and the Draft of the renewable gas act (which sets a quota for green gas of 7.7 % until 2030). Green gas is a hot topic in Austria at the moment.

Belgium

Robert Malina: demonstration plant at steel plant, SAF infrastructure, NATO pipeline now allows biofuels, kerosene pipeline now open for SAF, Brussels airline first to offer.

Brazil

Glaucia Mendes: corn ethanol increasing, biomethane increasing, status update on Renovabio 2022 status update.

Canada

The federal government has released the clean fuels regulation (CFR), which also involves the release of a new “open source”, LCA models that should be used to calculate the carbon intensity (CI) of all low-CI transportation fuels

China

Fuli Li: Hunan province, methanol from CO₂ using hydrogen (green methanol), 100 k ton/yr, Mongolia project in green ammonia, 100 k t/yr, will use green electricity to produce green hydrogen for the plant.

Denmark

Sune Tjalfe Thomsen did not join.

European Commission

Nicolae Scarlat, Marco Buffi: EU certification for carbon removal, carbon accounting, developing methodology for direct air capture and storage, biomethane doubling, 35 m³/yr, renewable from recycled carbon fuels regulation and methodology for GHG accounting, technologies for advanced biofuels, bioenergy and renewable fuels from non-biogenic origins.

Germany

Franziska Müller-Langer, Nicolaus Dahmen: demo projects started, evaluate which fuels are eligible, ways to phase out of conventional biofuels, e-fuels, report on renewable fuels to share.

Ireland

Tom Walsh (guest): blending mandate increased, E10, B12, 0.3% of the mix, the infrastructure of

compressed biogas expanded to increase biomethane, biofuels development for space Renetech, company bidding to become the NTL.

Japan

Yuta Shibahara: green innovation fund, technology development, 2G technology, 350 million yen, Eco33, green transformation approved by cabinet 150 million.

New Zealand

François Collard: sustainable biofuels obligation by 2024, biofuels to be deployed withdrawal due to sustainability issues, a proposal to demonstrate feasibility of SAF plant, 4 proposals. received and two selected, work at Cyon, fast pyrolysis technology.

South Korea

Chang Hyun Ko: aviation fuels project.

Sweden

Tomas Ekblom, Hannah Edgren: reduction of quota mandates E10, B30 highest diesel price, the new government will lower to minimum, perhaps zero, tax exemption prolongation, biogas company filed a complaint for disturbing the market, now no biocng tax exemption, SAF or methanol plant, 200 million dollars value, state utility company, SAS and other company partners.

The Netherlands

José Muisers, Paul Sinnige, Stephan Janbroers): RED3, not official yet, obligation in GHG reductions instead of better fuels now, road, marine, and SAF pillars, national program energy system, transition in several sectors, looking into electricity demand till 2050, ICAO program for capacity building, 0.5 million euros from EU, industry, and research projects.

United States

Ling Tao: SAF report from NREL, joint roadmap report with several agencies, 2030 needed activities, interagency call to action to decarbonize transportation, action items in the report to be worked on.

USGC

Mackenzie Boubin: 27 offices in the world, headquarters in DC, Japan activities, to double biofuels in Japan, clean fuel regulations implementation also of interest, Indonesia, UK, Brazil, Dominican Republic activities.

2. General management and dissemination status update, Tomas and Glauia (10 minutes)

Participants: 15 countries, 1 limited sponsor, Estonia out, Australia as Observer, contacts with Finland, Turkia in process (refer to slide 4, 5).

Website updated by ETA Florence

Webinar: LCA with Task 45 in April 17 (ask to join by email to Jean Felipe jefelipe@outlook.com)

Assessment of the sustainability of biofuels pathways and comparing and harmonizing LCA models (InterTask T39+T45)

Program:

- Welcome & Introduction (Glaucia, Tomas, Göran) - 10 min
- Methodology (Annette Cowie) - 10 min
- Guide for the Confused (Stefan Majer) - 10 min
- GREET+ (Michael Wang) - 10 min
- Emerging Markets (Glaucia Souza) - 10 min
- T39 LCA project (Marco Buffi) - 10 min
- IAM-LCA integration (Vassilis Diaglou) - 10 min
- SAF (Robert Malina/Jack Sadler) - 10 min
- Certification (Jose Muiser) - 10 min
- General Discussion - 30 min

Webinar: Emerging Markets May 22 and 23 (ExCo Workshop)

Publications: Certification by the Netherlands and Emerging Markets by Brazil (latest ones)

Newsletters (ISSN) to increase reach in academia and change format to harmonize with IEA, #62 European Commission by April, #63 New Zealand for August, #64 China for November 2023.

Hannah will contact all. China consulted for a feature article and accepted.

Meetings to try to fit to several time zones.

Program of work (refer to slide 6)

- The task group organizes two-three Business meetings per year (one physical) and arranges webinars, seminars, workshops, and conferences, not seldom with other task groups, and manages a Task 39 website.
- Program of Work includes conducting task projects with own funding, and inter-task projects for sustainable, low-carbon intensity transport biofuels to decarbonize the global economy.
- Examples includes assess and help with market development, maintain demonstration plants database and website which shows advanced biofuels production facilities, an Implementation Agenda: compares and contrasts successful policies to assess applicability to global regions.
- Publishing world class, state-of-the-art, reports, and three newsletters per year, featuring country reports, media stories and research (distributed to +2000 biofuels stakeholders).

Collaborate with other Tasks and allied international agencies (IEA HQ, IRENA, etc.) as well as other IEA TCPs (AMF, Hydrogen, etc.) and national programs.

3. Task 39 budget presentation and status of project invoices, Tomas (10 minutes)

The total budget is now US\$ 634,500, need invoices, Task behind schedule on expending, 202,500 committed funds, 68,471 actuals spent, and uncommitted 173,500. Tomas presented the changes from previous estimates. No comments on the budget by participants were made (refer to slide 7).

- A revised budget was sent to ExCo with the Progress report, which was approved. Main cause being changes with members entering, leaving, re-appearing.
- In addition, the work-load and schedule became more clear giving need for change. Also, "Dissemination" and "Other expenditure" (task meetings, workshops) were corrected.
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- The budget has again changed in 2023 with Estonia leaving and the 10% less to the Strategic Fund which had to be corrected as 2022 was based on anticipated revenue for 17 members.
- The total budget is now not calculated as \$648,000 but with the changes \$634,500 for the triennium. This can though change.
- There are currently six projects on-going with total financing of \$230,000. However, there is lack of invoices and expenditure is behind schedule. Still, there are uncommitted projects and large fund available.

4. Introduction presentation on the Qingdao Institute of Bioenergy and Bioprocess Technology (QIBEBT), Chinese Academy of Sciences (CAS) and country update on China as a new participant with new National Team Leader, Dr. Fuli Li (20 minutes)

Refer to slides by Dr. Li. Glaucia commented that China's help much appreciated in the Emerging Markets Analysis and Dr. Li acknowledged and said his group will contribute. François is working on demonstration of pyrolysis oil, made a question on marine biofuels, Dr. Ko mentioned biodiesel and pyrolysis oil (in demonstration phase). Glaucia offered to introduce Prof. Rubens Maciel that has projects in pyrolysis to the group.

5. Introduction presentation on the Chonnam National University and the School of Chemical Engineering and country update on South Korea with new National Team Leader, Dr. Chang Hyun Ko (20 minutes)

Refer to slides. Tomas asked if there are cost estimates for SAF in Korea and characteristics of catalysts. Dr. Ko noted it is important to increase incentives for biofuels due to high costs and commented on the need to design catalysts with a protective layer to pollutants on a case-by-case basis.

6. Introduction presentation on NREL, USA with new National Team Leader, Dr. Ling Tao (10 minutes)

Tomas asked on power projects. Dr. Ling mentioned bioenergy fitting under the pillar of sustainable transportation. Cross sectoral collaboration with renewable power. Ling mentioned an update report on renewable energy with a bioenergy focus. Tomas mentioned the hot topic of bioplastics. Ling mentioned upcycling on plastics. Glaucia mentioned FAPESP interests in establishing collaborations with NREL under an NSF call for projects or Global Centers that are being established such as with Canada, Australia and UK.

7. Project updates. Brief status reports on ongoing projects (6 minutes presentation with 4 minutes Q&A and maximum 6 slides = 45 minutes).

Refer to the slide 12.

Brief status reports on ongoing projects (6 minutes presentation with 4 minutes Q&A and maximum 6 slides = 45 minutes).

- T39-T1 by Jack Saddler, Canada
- T39-T2 by Jack Saddler, Canada
- T39-T4 by Andrea Sonnleitner, Austria
- T39-T6 by Franziska Müller-Langer, Germany
- T39-P1 by Jack Saddler, Canada
- T39-P4 by Glaucia Mendes Souza, Brazil
- T39 Intertask Lessons learned by Tomas, Sweden

The Task will continue to lead and coordinate activities in the three main program areas of:

1) technology and commercialization; 2) sustainability; and 3) policy

1) Technology and Commercialization (T-projects)

To address technical/commercial aspects of producing and using low carbon intensity (CI) liquid and gaseous biofuels for transport, including both “conventional” and “advanced” biofuels

2) Sustainability (P-projects)

Sustainability and carbon intensity metrics are playing an ever-increasing role in the policies used to develop and use biofuels, sustainability/LCA assessment is a priority for the Task

3) Policy (P-projects)

The “right” policies (such as LCFs) significantly influence the rate and extent of development, deployment and use of biofuels (e.g., bioethanol, biodiesel, renewable diesel, drop-in biofuels, etc.)

Ideal for next meeting to present and discuss the other six projects for startup during 2023 and finalization during 2024 for even schedule of deliverables.

a. T39 Intertask Lessons learned by Tomas, Sweden

March writing, 3 reports. Each WP a different report. Synthesis with an executive summary. OK to submit the Meta Analysis as a paper or an Opinion Article plus report.

b. T39-T1 by Jack Saddler, Canada

SAF/biojet update by Susan. SAF webinar highly viewed. Next report. Price of SAF biggest problem. Focus on policy.

US, Europe. Glauca commented on separate Certification project for SAF. Ling commented on policy needs for SAF. Susan commented on discussing on de-risk, BTL or gasification and CAPEX. Improvements expected by first facilities. 25% reduction by 2050. Only e-fuels can contribute with cost reduction. Robert commented on demand dynamic. Demand driving up markets. A few years in price decrease in the market. Demand until 2035 above supply. CO2 direct air capture vs industrial source much cheaper. E-fuel co2 sources, electricity, hydrogen. Glauca suggested OmegaGreen program in Paraguay as of potential interest.

c. T39-T2 by Jack Saddler, Canada

Co-processing. Asks for companies that should be included. Green molecules mass balance tricky. HVO as major drop-in. HEFA de-risked. First half of 2024 report. Need info on facilities. Data on technologies are available.

d. T39-T4 by Andrea Sonnleitner, Austria

Facilities on biofuels reported. Approaches focused on Task 39, countries not in Task 39 not included. Look into Task 42 suggested.

e. T39-T6 by Franziska Müller-Langer, Germany

Case studies reported that will be included in the Intertask. Refer to slides. Franziska asked for suggestion on case studies to be included.

f. T39-P1 by Jack Saddler, Canada

US Inflation Reduction Act high impact (IRA). April 1st deadline for submission of Compare and Contrast.

g. T39-P4 by Glaucia Mendes Souza, Brazil

Glaucia reported on

8. Program of Work proposals. General discussion (30 minutes)

For a presentation make 8 slides and 20 minutes incl Q&A. Please send these to Hannah latest by 20 February for sharing during the meeting.

a. T39-T3 “Extend assessment of decarbonization of the marine transport sector” by Sune Thomsen, Denmark

Tomas suggested solutions for this project since Denmark will not be able to conduct a proposal. Sweden, The Netherlands, USA. Leader Tomas. Lessons Learned phase 2 discussed, Brazil not willing to take on the lead. Paul informed report on marine biofuels being finalized. Perhaps could take on some role as a lead. To be discussed.

b. T39-P2 “Assessment of the sustainability of biofuels pathways..., and also further compare and harmonize leading LCA models (possibly InterTask with T45)” by Glaucia Mendes Souza, Brazil

Refer to slides. Glaucia reported on Paper published (LCA) “*Sustainability assessment of ethanol and biodiesel production in Argentina, Brazil, Colombia, and Guatemala - Renewable and Sustainable Energy Review*”, the Policy Brief summarizing LCA, TEA results for biofuels in Latin America, Draft of another manuscript (TEA, EA): *How far can we go with biofuel blending mandates? An economic and energetic outlook on ethanol and biodiesel in Latin American markets*. Carry out a similar analysis for other emerging markets in Africa and Asia. Selected countries: China, Ethiopia, India, Indonesia, Nigeria, Malaysia, South Africa, and Thailand.

c. T39-P3 “Emerging/proposed certifications for oleochemical/lignocellulosic feedstock-to-biofuel supply chains” by Paul Sinnige / José Muisers, the Netherlands.

Robustness of GHG emissions/sustainability frameworks. GHG emissions reductions as focus. Previous discussions with Task 45. SAF as main target. Budget to be defined. Certification not LCA, technical. Overlapping policies with ICAO as an interest. Invites other participants. Brazil expressed interest. US, Austria not sure. Suggestion by Jack to focus on the feedstock. This focus would not overlap with the SAF project. The Netherlands to suggest a meeting and T39 re-submit for suggestions and approval.

- 9. Project BioTheRoS (Collaborative Actions to Bring Novel Biofuels Thermo-chemical Routes Into Industrial Scale) presentation on the Horizon Europe Proposal (6-8 slides), by Andrea Sonnleitner (10 minutes)**

Task 39 supporting. Glaucia offered to have a session on Market Dynamics at BBEST IEA Bioenergy Conference 2024.

- 10. Project ICARUS (*International cooperation for sustainable aviation biofuels*) presentation on technical option for oils, alcohols and syngas to SAF in about six work packages with about 14 partners, by Franziska Müller-Langer (5 minutes)**

Task 39 supporting. Same applies as a BBEST option to disseminate as above.

- 11. Discussion of Action No 9 in ExCo90 regarding the “Leadership of I-T Project BECCUS Phase 2 and of Task 39 to coordinate to further explore opportunities for synergies” by Tomas (10 minutes)**

Nobody expressed an interest.

- 12. Business Meeting #7 and joint meeting of IEA AMF in Leipzig, Germany for 23-26 Oct, 2023 by DBFZ (10 minutes)**

Request for suggestions on who could be the expert participants in the workshops. Questionary to be sent out by Hannah to confirm participation.

- 13. Others, general discussion (10 minutes)**

Refer to slide 13. Ideal for next meeting to present and discuss the other six projects for startup during 2023 and finalization during 2024 for even schedule of deliverables. Glaucia confirms interest of Rubens to give a talk on B+ summit.

Certification project to be sent as final project.

Glaucia informed the 2024 Brazilian Bioenergy Science and Technology Conference (BBEST) will be organized jointly with the IEA Bioenergy End of Triennium Conference. Tasks 33, 36, 39 and 45 as well as the ExCo have confirmed an interest to have their physical meetings organized back to back with the Conference.

Follow-ups

Task	Responsible	Completed?
Move Newsletter into IEA Format	Leaders	[]
Newsletter #62 by April	European Commission	[]
Newsletter #63 by August	New Zealand	[]
Newsletter #64 by November	China	[]
Organize a meeting and re-submit Certification project for approval	The Netherlands	[]
Define expert participants for Leipzig Workshop	Leaders, Austria, Germany	[]
Ideally Task needs to define six projects for startup during 2023 and finalization during 2024	All	[]

Approvals

Decisions	Approved

[] Meeting Notes Distributed to the Team

[] Tasks & Projects Completed, Processed or Delegated

[] Key Dates Completed or Scheduled

CHAT

20:56:13 From Shibby , Japan To Everyone:

yes. but audio cannot work well now. I can hear you

21:29:26 From Franziska Mueller-Langer To Everyone:

Dear all, please be invited to have a look in this report on Monitoring renewable energies in transport here

https://www.dbfz.de/fileadmin/user_upload/Referenzen/DBFZ_Reports/DBFZ_Report_44_EN.pdf

21:47:35 From Marco Buffi To Everyone:

Dear all, I am pleased to share the CETO initiative from the EC JRC (which has been introduced by Nicolae) https://setis.ec.europa.eu/publications/clean-energy-technology-observatory-ceto/ceto-reports-2022_en , where our group contributed for the reports on bioenergy, advanced biofuels and RFNBO

21:55:29 From Paul Sinnige To Everyone:

The NL Gouvernement reserved € 0.5 million under the ICAO ACT-SAF program 'Capacity-building and Training for Sustainable Aviation Fuels'. If anyone is interested in joining in a buddy project with Netherlands, please contact me at paul.sinnige@rvo.nl

22:26:24 From Glaucia Souza - BIOEN & USP To Everyone:

Thank you Dr. Li for the reference, much appreciated!

22:34:57 From Jack Saddler To Everyone:

Tomas and everyone, I need to go to a "retreat" in 30 minutes, so Susan (who many of the task 39 people know) will give a brief update on the biojet and the drop-in biofuels/co-processing projects. She will also give an update on the implementation agenda report while introducing Hana who has taken over from Mahmood. We need all our Task 39 colleague to send us their chapters ASAP!! hope to be back on line before the task 39 meeting is over. Jack

22:35:29 From Ling Tao (US, NREL) To Tomas Ekblom(Privately):

Tomas, could you add me as co-host too so that I can share my screen later

22:42:27 From Tomas Ekblom To Ling Tao (US, NREL)(Privately):

Good Jack, I mentioned some words on Susan as she joined and we have new colleagues but she did not respond. Maybe later.

22:42:49 From Tomas Ekblom To Ling Tao (US, NREL)(Privately):

Yes will do.

23:28:00 From Ling Tao (US, NREL) To Everyone:

The BOTTLE consortium on plastics recycling and upcycling can be accessed by this link: <https://www.bottle.org/>

23:37:49 From Glaucia Souza - BIOEN & USP To Everyone:

Is Susan changing slides? For me it is still on the first one.

23:58:33 From Mackenzie Boubin To Everyone:

I'll have to get going here, fascinating discussion and presentations, looking forward to receiving these later as a follow-up, thanks Tomas!

00:04:00 From Franziska Mueller-Langer To Everyone:

Dear all, Surely some of you are already aware of the IEA AMF Task on SAF; info about that task and webinars (some of us were involved) can be found here: https://iea-amf.org/content/projects/map_projects/63

00:04:51 From Tomas Ekbom To Everyone:

Good point Franziska. That is worthy for looking into for the projects.

00:28:26 From Susan Van Dyk To Everyone:

Franziska, I did a presentation for the AMF webinar on SAF and will participate in their meeting to plan SAF activities

01:17:59 From Ko, Chang Hyun (South Korea) To Everyone:

I have to attend another meeting. I can't attend from 9th part. If anything further informed needed, please let me know. Thanks in advance! (Tomas Ekbom)

01:18:47 From Tomas Ekbom To Everyone:

Thanks Dr Ko. Thanks for your contribution. Very good!

01:23:04 From Fuli Li-China To Everyone:

Muisers : I will talk with people at Qibebt, and discuss with you later

01:28:09 From NL José Muisers To Everyone:

thank you Fuli Li

02:00:48 From Marco Buffi To Everyone:

Dear Glaucia, as JRC we're still at an early stage of the development for a new project, so we would prefer to show our activities and how can fit to this joint cooperation

02:02:41 From Glaucia Souza - BIOEN & USP To Everyone:

Thanks Marco, we will talk!

02:03:41 From Paul Sinnige To Everyone:

thank you, till next time

02:03:51 From Tomas Ekbom To Everyone:

Thanks!